PUBLIC HEALTH FACT SHEET

Botulism

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What is botulism?

Botulism is a muscle-paralyzing disease caused by a toxin (poison) made by the bacteria (germ) Clostridium botulinum. The bacterium itself is not usually harmful except for infants and certain individuals.

There are three main types of botulism and all 3 types are uncommon in the United States:

- Foodborne botulism occurs by eating foods that contain the toxin.
- Infant botulism (also called intestinal botulism) can occur in infants who eat the bacteria, which then can produce the toxin in the infant's bowel. Children under 1 year of age may be at risk because they do not have enough "normal bacteria" in their bowel to prevent this from happening.
- Wound botulism occurs when a wound is infected with the bacteria, which can release the toxin in the wound.

How is botulism spread?

Clostridium botulinum is naturally found in the soil and can survive for long periods of time. The bacteria can get into food and under certain circumstances (when there is no oxygen present in the food) produce toxin. The toxin is destroyed by heat. For food botulism, a person must swallow contaminated food that has not been properly cooked or reheated after the toxin has been produced by the bacteria in the food. For infant botulism, the infant needs to eat food that contains the bacteria. Certain foods, such as honey, are more likely to be contaminated. For wound botulism to occur, the bacteria need to get into a wound and have the correct conditions to allow the toxin to be produced. Botulism is not spread from person to person.

Can botulism be used for bioterrorism?

Yes. Bioterrorism is the use of any biological organism to hurt people or create fear. The Centers for Disease Control and Prevention lists botulism as a possible bioterrorist agent; however, it has never been successfully used in this manner.

What are the symptoms?

Foodborne and wound botulism produce symptoms that affect the nervous system. These symptoms can include blurred or double vision, dry mouth, difficulty swallowing, muscle weakness, muscle paralysis, and slurred speech. In some people, the disease causes respiratory paralysis (leaving the person unable to breath on his own) and may cause death. Infants with botulism often become constipated, stop eating and become sluggish; these symptoms can then be followed by the more severe nervous system symptoms.

How soon do symptoms appear after exposure?

Symptoms for foodborne botulism usually develop in 12 to 36 hours after ingestion of the contaminated food. Infant botulism symptoms appear between 3 and 30 days after ingestion of the bacteria. Symptoms appear in wound botulism between 4 and 14 days after exposure to the bacteria.

How is botulism diagnosed?

A doctor may consider the diagnosis if the patient's food history and physical examination suggest botulism. However, these clues are usually not enough to diagnose botulism. There are other diseases that can appear similar to botulism, and special tests may be needed to exclude these other conditions. The most direct way to confirm botulism is by testing a stool sample for foodborne or infant botulism or by testing the wound or blood for wound botulism. This is not a routine test and is only done at a few specific laboratories, so a doctor must make special arrangements for it.

How is botulism treated?

Botulism is a very serious disease and can be deadly if not treated. If the disease is caught early the person may receive an antitoxin (medicine) that can decrease the symptoms of the illness. Antitoxin is not given in the case of infant botulism. Most patients receive supportive care during their illness.

Is there a botulism vaccine and should I get one?

There is no vaccine for botulism that has been tested and proven safe for the public.

What foods are commonly associated with botulism?

Botulism is most often associated with home-canned foods that have a low-acid content, such as asparagus, green beans, beets and corn. However, outbreaks of botulism from more unusual sources such as chopped garlic in oil, chili peppers, improperly handled baked potatoes wrapped in aluminum foil, and home-canned or fermented fish have occurred.

Honey can contain the botulism bacteria and can be a problem for children under 1 year of age.

How can botulism be prevented?

Persons who do home canning should follow strict hygiene procedures to reduce contamination of foods. Oils made with garlic and herbs should be refrigerated. Potatoes which have been baked while wrapped in aluminum foil should be kept hot until served or refrigerated. Because high temperatures destroy the botulism toxin, persons who eat home-canned food should consider boiling the food for 10 minutes before eating to ensure safety. More information on safe home canning can be found on the Utah State University Extension School's website at: http://extension.usu.edu/publica/foodpubs.htm.

Children under 1 year of age should not be fed honey. Wound botulism can be prevented by promptly seeking medical care for infected wounds and by not using injectable street drugs.

Where can I get more information?

- Your doctor, nurse or clinic
- The Centers for Disease Control and Prevention (CDC) website at: http://www.bt.cdc.gov/
- Your local board of health (listed in the telephone directory under "government")
- The Massachusetts Department of Public Health (MDPH), Division of Epidemiology and Immunization at (617) 983-6800 or toll-free at (888) 658-2850, or on the MDPH website at http://www.mass.gov/dph

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